

IN THE SPECIFICATION

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A RECEPTACLE HAVING A NECK PROVIDED WITH
TWO PORTIONS OF DIFFERENT DIAMETERS

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Provisional Application No. 60/411,383 filed September 18, 2002.

BACKGROUND OF THE INVENTION

[0002] The present invention relates to packaging and dispenser devices, in particular receptacles for containing cosmetics and applicators for fixing on such receptacles.

[0003] The term "cosmetic" is used herein to designate any "cosmetic product" as defined in EEC Council Directive 93/35/EEC of June 14, 1993.

[0004] At present, there exist hair-coloring kits including a flask containing an oxidizer, the flask having a threaded neck of a certain diameter. Prior to use, the flask is closed by a cap having a corresponding diameter. The cap is manufactured using a mold having a large number of recesses at a cost that is relatively high.

[0005] Accessories, such as applicator combs, having a plurality of dispenser orifices are made available together with the flasks.

[0006] Sometimes, accessories cannot be made in such a manner as to be capable of being screwed onto the threaded neck of an existing flask because of their nature or for manufacturing reasons. It is then necessary to make new flasks and new caps, which means that new molds need to be made. In addition, existing accessories can no longer be used on the new flasks unless adapters are provided. This

leads to extra costs and, in addition, can lead to problems of leakage or an ugly appearance.

SUMMARY OF THE INVENTION

[0007] The present invention seeks to address these drawbacks.

[0008] In one embodiment of the present invention, a receptacle is provided comprising:

- a body and a neck. The neck comprises a first portion that has a first diameter and a first fixing means, and a second portion located between the body of the receptacle and the first portion. The second portion has a second diameter greater than the first diameter and a second fixing means. The neck may have a shoulder connecting the first portion to the second portion. The shoulder may be a plane annular surface extending outside and perpendicular to the neck. This annular surface may be used, as described in greater detail below, to cooperate with an accessory so as to obtain sealing. The receptacle may be made of a plastic material.

[0009] In one aspect of the present invention, the first portion or the second portion has a thread. In a further aspect, the first portion and the second portion both have threads, and still further, they have threads that allow for turning in the same direction.

[0010] In another aspect of the present invention, the first portion or the second portion has at least one snap-fastening shape in relief. The snap-fastening shape in relief may be an annular bead.

[0011] It is then possible to fix accessories of different kinds on the first and second portions of such a receptacle, e.g. by screw fastening or snap-fastening, depending on the nature of the fixing means.

[0012] By way of example, the first portion may be configured to receive existing accessories that have the same diameter as the neck of existing flasks. The second portion may be configured, for example, to receive a newly-developed accessory that has an assembly skirt with a relatively larger diameter. Thus, the invention makes it possible to continue to be able to use existing caps, thus avoiding the need to make new molds for caps. The invention also makes it possible to use a greater variety of accessories in association with a given receptacle, and without having to use adapters.

[0013]

[0014] At least one of the first and second portions may include a thread enabling an accessory to be screwed onto the neck of the receptacle. Such a thread may be made in various ways and may comprise, for example, a one-start thread or a multiple-start thread.

[0015] In a variant, at least one of the first or second portions include a snap-fastening shape in relief comprising an annular bead, for example, enabling an accessory to be fixed onto the neck of the receptacle by snap-fastening.

[0016] Another aspect of the present invention allows the first portion to have a first inside diameter. The second portion has a second inside diameter that is larger than the first inside diameter.

[0017] In another aspect of the present invention, the neck has an inside shoulder that connects the first portion to the second portion.

[0018] In another aspect of the present invention a kit is provided. The kit comprising a receptacle with a

first portion having a body and a neck including first portion with a first diameter and a first fixing means and a second portion located between the body and the first portion with a second diameter larger than the first diameter and a second fixing means. The kit also includes at least one accessory configured to be fixed on the neck.

The accessory may be configured to cooperate with the second portion, for example, by screw fastening.

[0019] The accessory may have an assembly skirt configured to cooperate with the second portion, for example, by screw fastening. The assembly skirt may include a sealing surface that abuts a shoulder which connects the first and second portions of the receptacle together. This sealing surface may be defined, for example, by an annular bead. Sealing between the accessory and the receptacle can be provided on the outside of the neck, thus, in a further aspect, the accessory may be made without a sealing lip that comes to bear against the inside of the neck of the receptacle. This makes it possible to use a manufacturing method for making the accessory that is incompatible with the presence of such a sealing lip.

[0020] In one aspect of the present invention, the accessory is an applicator, in particular an applicator comb. The applicator may have teeth. At least one of the teeth may include at least one dispenser orifice which may be at a distance from the free end of that tooth. The dispenser orifice may be oriented in such a manner as to limit the risk of dispensing the substance other than between the teeth. Such a configuration is particularly useful with an applicator comb since it makes it possible

to avoid dispensing the substance directly onto the scalp, and it can make it easier to treat locks of hair.

[0021] In another aspect of the present invention, the applicator has at least one row of teeth with end teeth located at the ends of the row. The end teeth do not have any dispenser orifice opening other than the ones that open into the gap between the teeth. The end teeth may not have any dispenser orifices at all.

[0022] In another aspect of the present invention, at least one tooth in the row located between the end teeth may have two dispenser orifices on the exterior of the tooth on opposite sides in a direction parallel to the row. In a further aspect of the present invention, each tooth located between the end teeth has at least one dispenser orifice. The applicator may be made by molding a plastics material, and in one aspect, at least one of the teeth may include at least one groove extending from its free end to a dispenser orifice formed in the tooth.

[0023] In one aspect of the present invention, the applicator has at least six teeth, each provided with at least one dispenser orifice. Preferably, each tooth has two dispenser orifices opening in opposite directions. All of the teeth of the applicator may be of the same length.

[0024] When at least one of the first and second portions of the neck has a thread, the kit may include at least one accessory configured for screwing onto the thread. Also, when at least one of the first and second portions of the neck includes at least one snap-fastening shape in relief, the kit may include at least one accessory arranged with at least one complementary snap-

fastening shape in relief configured to cooperate with the snap-fastening shape of the receptacle.

[0025] In another aspect of the present invention, the kit includes at least two accessories of different kinds. In particular, one accessory will cooperate with the first portion and the other accessory will cooperate with the second portion of the neck. For example, one of the accessories may be a cap and the other may be an applicator.

[0026] In one aspect, the kit may have an accessory configured for cooperating with the first portion of the neck. The accessory may also be a dispenser endpiece or a receptacle.

[0027] The receptacle may be filled with a cosmetic. The cosmetic may be, for example, a substance for coloring the hair.

[0028] In another embodiment of the present invention, an applicator is provided that cooperates with the neck of a receptacle. The applicator includes an assembly skirt arranged to cooperate with the receptacle. The assembly skirt includes an annular bead made on an inside surface of the skirt at a distance from the free end. The annular bead makes it possible to obtain sealing. In a further aspect of the present invention, an applicator fastens onto the neck of the receptacle by screw fastening.

[0029] In another aspect of the present invention, a method is provided for manufacturing a kit comprising a receptacle as defined above and at least one accessory configured for fixing on the neck, in particular an applicator comb. The method comprises the following steps:

- making the receptacle, filling the receptacle with a cosmetic, fixing a cap on the first portion of the neck, and packaging the receptacle carrying the cap with an applicator configured to be capable of being fixed on the second portion of the neck.

[0030] In another embodiment of the present invention, a receptacle comprising: a body and a neck. The neck comprising a first portion having a first inside diameter and including a first fixing means and a second portion situated between the body of the receptacle and the first portion. The second portion has a second inside diameter greater than the first inside diameter, and has a second fixing means.

[0031] In another of its aspects, the present invention provides a receptacle comprising: a body and a neck, comprising: a first portion having a first diameter and including a first fixing means and a second portion located between the body of the receptacle and the first portion. The second portion has a second diameter greater than the first diameter, and has a second fixing means. The first portion and the second portion are connected by an inside shoulder.

[0032] In still yet another of its aspects, the present invention provides a receptacle comprising: a body and a neck, comprising: a first portion having a first diameter and including a first thread and a second portion located between the body of the receptacle and the first portion. The second portion has a second diameter greater than the first diameter and includes a second thread. The first and second threads enable screw fastening to be performed by turning in the same direction.

[0033] In another embodiment of the present invention, a receptacle is provided which includes a body and a neck. The neck includes a first portion having a first diameter and at least one of a first thread or a first snap-fastening shape in relief, and a second portion located between the body of the receptacle and the first portion. The second portion has a second diameter greater than the first diameter and at least one of a second thread or a second snap-fastening shape in relief.

[0034] In another of its aspects, the present invention provides a kit comprising:

- a receptacle comprising:

a body, a neck and at least two accessories of different kinds. The neck includes a first portion having a first diameter and a first fixing means and a second portion located between the body of the receptacle and the first portion. The second portion has a second diameter greater than the first diameter and a second fixing means.

In a further aspect, the accessories are selected from an applicator, an endpiece, a cap, and a second receptacle.

[0035] In still another embodiment of the present invention, a kit comprising:

- a receptacle comprising: a body and a neck, and at least two accessories. The neck includes a first portion having a first diameter and a first fixing means and a second portion located between the body of the receptacle and the first portion. The second portion has a second diameter greater than the first inside diameter and a second fixing means. The accessories cooperate with the first portion and the second portion, respectively. In one aspect of the present invention, the accessories are

selected from an applicator, an endpiece, a cap and a second receptacle.

BRIEF DESCRIPTION OF THE DRAWINGS

[0036] The invention can be better understood on reading the following detailed description of non-limiting embodiments and on examining the accompanying drawings, in which:

[0037] Figure 1 is a diagrammatic axial view showing a kit in accordance with a first embodiment of the present invention.

[0038] Figure 2 is a fragmentary axial view showing a kit of the invention comprising the receptacle of Figure 1.

[0039] Figure 3 is a fragmentary axial section view in another perspective of the Figure 2 kit.

[0040] Figure 4 is a fragmentary axial view of the top portion of one of the teeth in the Figure 2 kit.

[0041] Figure 5 is a fragmentary axial view of another example of a kit in accordance with the present invention.

[0042] Figure 6 is a fragmentary axial view of a kit constituting another aspect of the present invention.

[0043] Figure 7 is a fragmentary axial view showing another aspect of the kit of Figure 1.

[0044] Figure 8 is a fragmentary axial view showing still another aspect of the present invention.

[0045] Figure 9 is a fragmentary axial view showing yet another aspect of the present invention.

DETAILED DESCRIPTION

[0046] Figure 1 shows a kit 1 of the invention comprising a receptacle 2 and a closing cap 3. In the example described, the receptacle 2 is made of a plastics material. The receptacle 2 comprises a body 4 containing

a cosmetic, for example a substance P for coloring the hair, and a neck 5 about axis X.

[0047] At its top end, the neck 5 has a first portion 6 and at its bottom end it has a second portion 7. The second portion is located between the body 4 and the first portion 6 and has a diameter greater than the diameter of the first portion 6. The first portion may have a thread 28 on its outside surface and the second portion 7 may also have a thread 29 on its outside surface. The threads 28 and 29 may be made in various ways, for example, a one-start thread or a multiple-start thread.

[0048] The first and second threaded portions 6 and 7 are connected together by a shoulder 8 defining a plane annular surface 9 which extends outwards from the neck 5 perpendicularly to the axis X.

[0049] The cap 3 has a tubular skirt provided with an inside thread 10. The inside thread 10 enables cap 3 to be screwed onto the threaded first portion 6 of the neck 5, as shown in Figure 1. Sealing between the neck 5 and the cap 3 may be implemented by means of a sealing lip 11 of the cap 3. Sealing lip 11 presses against the radially inner surface of the threaded first portion 6, which surface is circularly cylindrical about the axis X.

[0050] The neck of the receptacle may have first and second fixing means of the same type, as shown in FIG. 1, for example, threads. The threads enable screw fastening to be performed by turning. The threads may be turned in the same direction, or in different directions. Also first and second fixing means may be of different types. For example, the first fixing means being constituted by a thread, and the second fixing means being constituted by snap-fastening means, or vice versa. At least one of the

first and second fixing means may also be configured, for example, so as to enable snap-fastening to take place after performing a screw fastening operation. The snap-fastening may have the function, for example, of making unscrewing more difficult, or merely of informing the user that the accessory has been screwed on far enough.

[0051] To apply the substance P to the hair, the user unscrews the cap 3 and screws an applicator comb 15 onto the threaded portion 7, as shown in Figure 2. This applicator 15 is made as a single molding of plastics material. At its bottom end, the applicator 15 includes an assembly skirt 16, and about halfway up applicator 15 includes a transverse wall 17 having a row of teeth 18 extending therefrom.

[0052] This row 18 has two end teeth 19 with six intermediate or "active" teeth 20 being interposed between them. The teeth 20 may be of the same length as the end teeth 19.

[0053] As shown in the example of Figure 2, the row 18 extends substantially along the entire diameter of the transverse wall 17. The six intermediate teeth 20 extend over a length that is greater than the diameter of the threaded first portion 6.

[0054] Each intermediate tooth 20 may have an internal channel 21 whose bottom end opens out through the transverse wall 17. The internal channel 21 communicates with the outside via two dispenser orifices 22. As shown in Figures 2 through 4, each tooth 20 has two substantially parallel side faces 23 perpendicular to the axis of the row 18. The two dispenser orifices 22 open out respectively in said two side faces 23 at a non-zero distance from the free end of the tooth.

[0055] Grooves 25 extend in each face 23 of the tooth 20 from the dispenser orifice 22 present in said face to the free end of the tooth. The dispenser orifices 22 may be made by means of two mold portions that are movable relative to each other parallel to the longitudinal axis of the teeth 20. The mold portions come into contact at the level of the dispenser orifices 22. The groove enables the tooth to be unmolded by separating two mold portions in a direction parallel to the axis of the tooth. This can make it easier to manufacture the applicator.

[0056] The end teeth 19 may not have any dispenser orifices. Thus, the dispenser orifices 22 of the teeth 20 open out into a gap lying between two teeth. This makes it possible to limit the risk of substance being squirted out from the row 18.

[0057] In its bottom portion, the assembly skirt 16 has an inside thread 26 enabling it to be screwed onto the threaded second portion 7 of the neck 5.

[0058] The assembly skirt 16 also has an annular bead 27 made on the inside surface of the skirt 16. The annular bead 27 is located immediately above the inside thread 26 in the example shown. This annular bead 27 is designed to abut the annular surface 9 of the neck 5, as shown in Figure 2. This will provide sealing between the neck 5 and the applicator 15. Because sealing is provided on the outside of the neck 5, it is possible to avoid the need to provide a sealing lip that bears against the inside surface of the threaded portion 6. This makes it possible to provide the applicator 15 with active teeth 20 over a distance that is greater than the diameter of the threaded first portion 6. Also, it is possible to provide

a relatively large number of teeth, for example, six in the example shown.

[0059] In order to treat the hair, the user moves the applicator 15 through the hair with the substance P flowing out into the channels 21 leading to the dispenser orifices 22.

[0060] The receptacle 2 may be associated with accessories other than a cap 3 and an applicator comb 15.

[0061] By way of example, Figure 5 shows an accessory 30 constituted by an endpiece having a single dispenser orifice. Accessory 30 may be suitable for being screwed onto the neck 5 of the receptacle 2. This accessory 30 comprises an assembly skirt 31 with an inside thread which may be screwed onto the threaded first portion 6 of the neck 5. The accessory 30 also comprises an internal sealing skirt 32 that may abut the inside surface of the threaded first portion 6. At its top end, the accessory 30 is provided with a snap-off portion 33 which the user detaches at the moment of use.

[0062] It is also possible to use an accessory, for example, such as a second receptacle 35, as shown in Figure 6. This allows one to perform extemporaneous mixing of two substances, in particular, an oxidizer and a coloring agent, prior to application on the hair. The second receptacle 35 has a neck 36 with an inside thread configured for screwing onto the threaded first portion of the neck 5. Sealing can be obtained, for example, by pressing the end of the neck 36 against the annular surface 9. Annular surface 9 may be provided, where appropriate, with sealing means such as a deformable gasket.

[0063] In Figure 7, the cap 3, described with reference to Figure 1, may also be configured so as to be suitable for screwing onto the threaded second portion 7 of the neck 5. The accessories can be fixed by being screwed onto the neck 5 of the receptacle.

[0064] With the scope of the present invention can be to provide other fixing means can be provided on the outside surfaces of the portions 6 and 7 of the neck 5. For example, Figures 8 and 9 show a receptacle provided with a neck 5' that differs from the above-described neck 5 in that the threads of the first and second portions 6 and 7 are replaced by annular beads 40 and 41, respectively. The accessories such as a cap 3' and an applicator 15', for example, are then each provided with a respective annular groove 42, 43 suitable for co-operating with the corresponding annular bead 40 or 41 by snap-fastening.

[0065] Naturally, the invention is not limited to the examples described above. In particular, the applicator comb 15 may be replaced by any other type of applicator, for example, having teeth without any dispenser orifices or with the dispenser orifices being made at the base of the teeth.

[0066] Throughout the description, including in the claims, the term "comprising a" should be understood as being synonymous with "comprising at least one" unless specified to the contrary.

[0067] Although the invention herein has been described with reference to particular embodiments, it is to be understood that these embodiments are merely illustrative of the principles and applications of the present invention. It is therefore to be understood that numerous

modifications may be made to the illustrative embodiments and that other arrangements may be devised without departing from the spirit and scope of the present invention as defined by the appended claims.

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